

B' cond.
conductive layer, wherein said at least one conductive layer is electrically connected to the semiconductive region of the first conductivity type.

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4. (Amended) The array of photodiodes of claim 1, wherein the semiconductive region of the first conductivity type comprises a semiconductor substrate made of single-crystal silicon.

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8. (Amended) The array of photodiodes of claim 1, wherein said semiconductive region of the first conductivity type comprises a semiconductor substrate made of single-crystal silicon, said at least one insulating layer comprises a silicon oxide layer, and said conductive layer comprises a polysilicon layer.

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10. (Amended) The array of photodiodes of claim 9, wherein said single-crystal silicon layer and said polysilicon layer have a high refraction coefficient on the order of 4, while said silicon oxide layer and silicon nitride layer have a lower refraction coefficient, on the order of 1.5.

11. (Amended) The array of photodiodes of claim 1, wherein said conductive layer is connected to said semiconductive region of the first conductivity type at a heavily doped P-type region thereof.

12. (Amended) A photodiode comprising:
a semiconductor substrate of a first conductivity type;
a semiconductive region of a second conductivity type formed in said semiconductor substrate;
a multilayer interference filter disposed over said semiconductive region and including:
at least one insulating layer of predetermined thickness, and
a conductive layer disposed over said at least one insulating layer,
wherein said conductive layer includes a conductive portion that electrically connects said conductive layer to said semiconductor substrate of the first conductivity type.

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17. (Amended) A photodiode comprising:

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cont.

a semiconductor substrate of a first conductivity type;
a semiconductive region of a second conductivity type formed in said semiconductor substrate;
a multilayer interference filter disposed over said semiconductive region and including;
at least one insulating layer of predetermined thickness, and
a conductive layer disposed over said at least one insulating layer,
means defining a conductive portion that electrically connects said conductive layer to said semiconductor substrate of the first conductivity type.

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19. (Amended) A photodiode circuit comprising:
a photodiode having a cathode;
a precharge transistor having a gate, a source, and a drain; and
an amplifying transistor having a gate and a source;
wherein the cathode of said photodiode is coupled to the source of said precharge transistor, the drain of said precharge transistor is connected to receive a reference voltage, and the gate of said precharge transistor is connected to a row line capable of selecting all precharge transistors of a same row; and
wherein the gate of the amplifying transistor is connected to the cathode of said photodiode and the source of the amplifying transistor is connected to a column line.

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27. (Amended) A photodiode comprising:
a semiconductor substrate of a first conductivity type;
a semiconductive region of a second conductivity type formed in said semiconductor substrate;
a multilayer interference filter disposed over said semiconductive region and including;
at least one insulating layer of predetermined thickness, and
a conductive layer disposed over said at least one insulating layer,
said semiconductor substrate defining a well formed in a base substrate of the second conductivity type, said conductive layer being connected to said base substrate.

Please add the following claims:

28. (New) The array of photodiodes of claim 1, wherein the at least one insulating layer includes a first insulating layer and a second insulating layer disposed below the first insulating layer, the first insulating layer extending across all the photodiodes of the same sub-array, and the second insulating layer extending across at least two photodiodes of the same sub-array, wherein said at least one conductive layer extends across all the photodiodes of the same sub-array above the first insulating layer.

29. (New) The array of photodiodes of claim 28, wherein the at least one insulating layer further includes a third insulating layer, disposed below the second insulating layer, that extends only across a single photodiode of the same sub-array.

30. (New) The array of photodiodes of claim 1, wherein each sub-array includes a plurality of respective photodiodes, and wherein the determined thickness of the at least one insulating layer above each respective photodiode of the same sub-array has a different thickness to interferentially filter a different wavelength of light.

REMARKS

In response to the Office Action mailed July 15, 2002, Applicant respectfully requests reconsideration. To further the prosecution of this application, arguments are submitted herewith, and Applicant has added several additional claims to this application.

Claims 1-30 are pending in this application. Claims 20-26 have been canceled as being drawn to a non-elected invention, and claims 28-30 are newly presented.

Preliminarily, Applicant notes that although claims 1, 4, 8, 10-12, 17, 19, and 27 have been amended herein, these amendments are not made in an effort to distinguish over the cited art, as that is believed to be unnecessary for reasons set forth in detail below. Rather, the changes to each of claims 1, 4, 8, 10-12, 17, 19, and 27 are made solely to further clarify the claimed invention and are not believed to narrow the scope of these claims. For example, in claim 1, the recitation "said conductive layers are" has been amended to recite "said at least one conductive layer is" so as to clearly refer back to the "at least one conductive layer" previously recited in claim 1. The word "refraction" has been added to the last line of claim 10 so as to